MX-4

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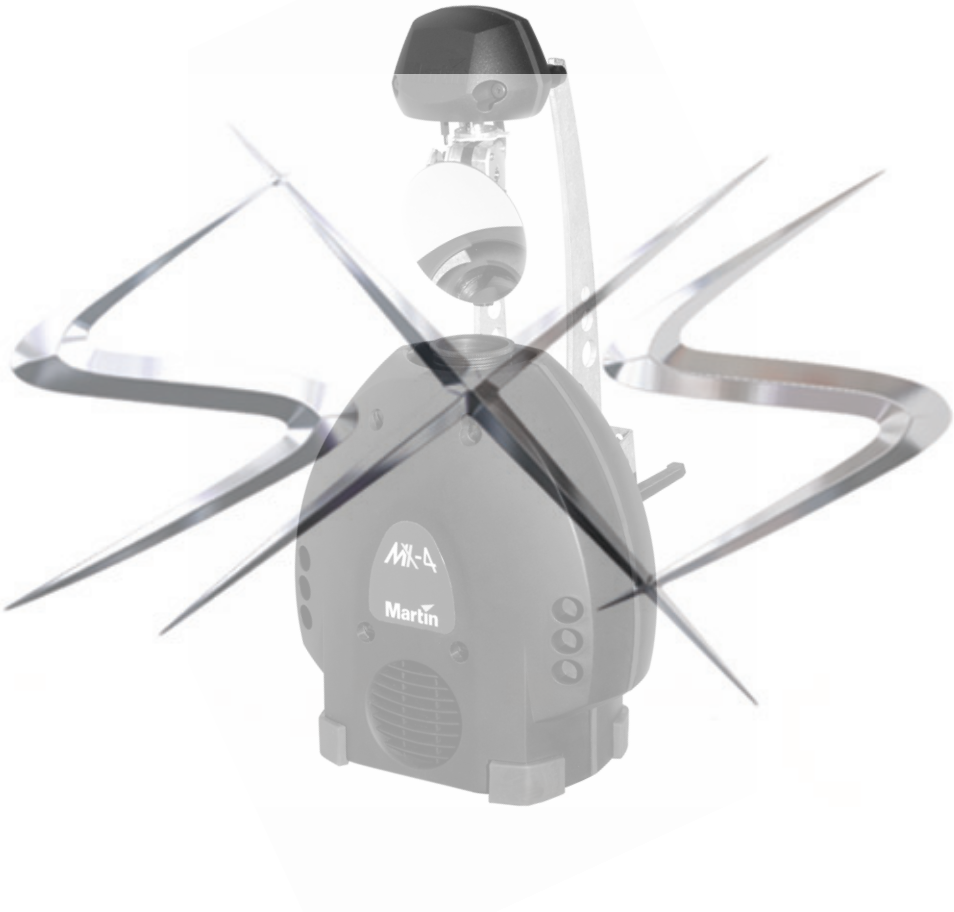

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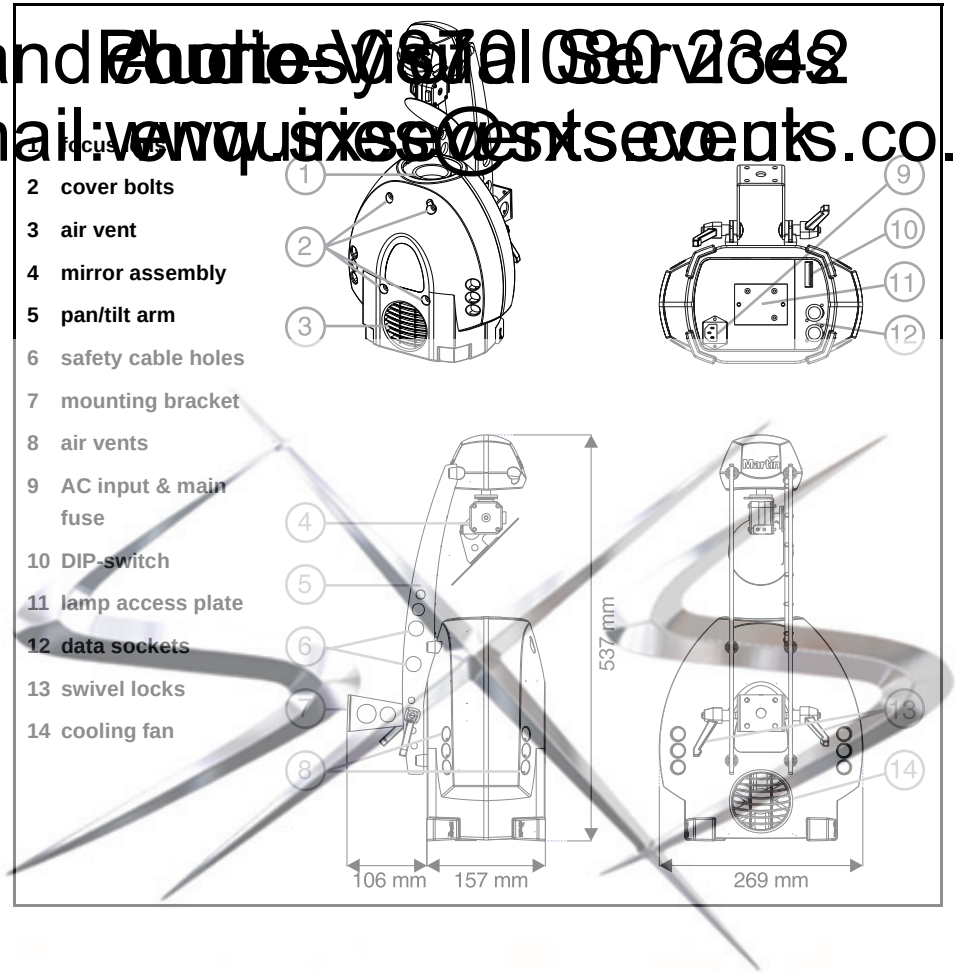
1 focus ring
2 cover bolts
3 air vent
4 mirror assembly
5 pan/tilt arm
6 safety cable holes
7 mounting bracket
8 air vents
9 AC input & main fuse
10 DIP-switch
11 lamp access plate
12 data sockets
13 swivel locks
14 cooling fan



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Thank you for selecting the Martin MX-4. This automated moving-mirror spotlight provides 15 full and 2 split colors, 19 gobos, high-speed shutter, 230° of pan and 76° of tilt, adjustable focus, and a 16° beam angle. It uses a 150 watt discharge lamp and may be operated with DMX controllers, the Martin MC-1 remote control, or as a stand-alone unit with master/slave capability.

SAFETY INFORMATION

Warning! ***This product is for professional use only. It is not for household use.***

This product presents risks of lethal or severe injury due to fire and heat, electric shock, ultraviolet radiation, lamp explosion, and falls. **Read this manual** before powering or installing the fixture, follow the safety precautions listed below and observe all warnings in this manual and on the fixture. If you have questions about how to operate the fixture safely, please contact your Martin dealer or call the Martin 24-hour service hot line.

To protect yourself and others from electric shock

- Disconnect the fixture from AC power before removing or installing the lamp, fuses, or any part, and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the fixture to rain or moisture.
- Refer all service to a Martin service technician.

To protect yourself and others from UV radiation and lamp explosion

- Never operate the fixture with missing or damaged lenses and/or covers.
- When replacing the lamp, allow the fixture to cool for at least 5 minutes before removing the fixture cover. Protect your hands and eyes with gloves and safety glasses.

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- Do not stare directly into the light. Never look at an exposed lamp while it is lit.
- Replace the lamp if it becomes defective or worn out.

To protect yourself and others from burns and fire

- Always replace fuses with the same type and rating. Always replace defective fuses with ones of the specified type and rating.
- Keep all combustible materials (for example fabric, wood, paper) at least 0.1 meters (4 inches) away from the fixture. Keep flammable materials well away from the fixture.
- Do not illuminate surfaces within 0.3 meters (12 inches) of the fixture.
- Provide a minimum clearance of 0.1 meters (4 inches) around fans and air vents.
- Never place filters or other materials over the lens or mirror.
- Allow the fixture to cool before handling.
- Do not modify the fixture or install other than genuine Martin parts.
- Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).

To protect yourself and others from injury due to falls

- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.
- Block access below the work area whenever installing or removing the fixture.

UNPACKING

The packing material is carefully designed to protect the fixture during shipment - always use it to transport the fixture.

The MX-4 comes with:

- Philips CDM-SA/T 150W discharge lamp
- 3 m, 3-pin IEC mains cable
- user manual

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The MX-4 power supply has 5 voltage and 2 frequency settings. The factory default setting is shown on the serial number label.

Warning! ***For protection from fire and electric shock, the fixture must be grounded (earthed). The power supply shall have overload and ground-fault protection.***

Warning! ***Verify that the feed cables are undamaged and rated for the current requirements of all connected devices before use.***

Important! ***Check the power supply setting before applying power.***

Important! ***The mirror assembly is secured for transport with a plastic tie. Cut and remove the tie before applying power.***

Important! ***Do not connect the fixture to a dimmer system.***

To install a plug on the mains lead

The mains lead must be fitted with a grounding-type cord cap that fits your power distribution system. Consult a qualified electrician if you have any doubts about proper installation.

- **Following the cord cap manufacturer's instructions, connect the yellow and green wire to ground (earth), the brown wire to live, and the blue wire to neutral. The table below shows some pin identification schemes.**

Wire	Pin	Marking	Screw color
brown	live	"L"	yellow or brass
blue	neutral	"N"	silver
yellow/green	ground	⏚	green

Table 1: Cord cap wiring

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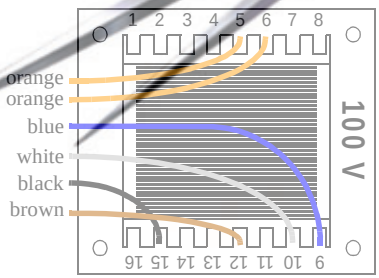
To rewire the power supply

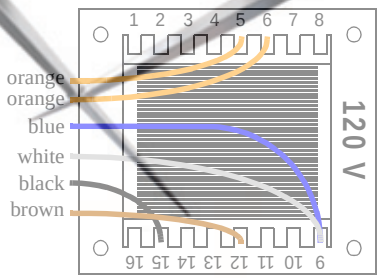
1. Always use the setting that most closely matches the local AC mains voltage and frequency.
2. **Disconnect the fixture from AC power. Remove the top cover bolts with a 4 mm hex key and remove the cover.**
3. **On the transformer, which is located behind the color wheel, move the brown and white wires to the transformer taps shown for your mains voltage. (If your MX-4 has 2 blue wires, the blue wire *with the insulated spade plug* corresponds to the white wire.)**

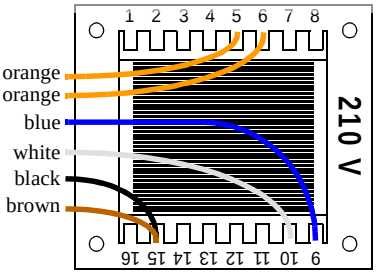
Important! ***Do not move the blue wire from terminal 9 or the black wire from terminal 15.***

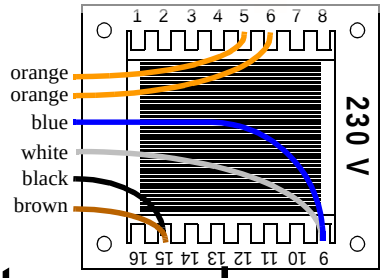
Mains voltage	Setting	Brown	White
95 - 109 V	100 V	12	10
110 - 130 V	120 V	12	9
200 - 219 V	210 V	15	10
219 - 239 V	230 V	15	9
240 - 260 V	250 V	16	9

Table 2: Transformer settings









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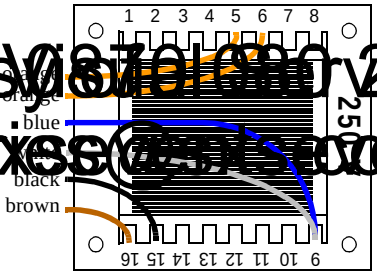
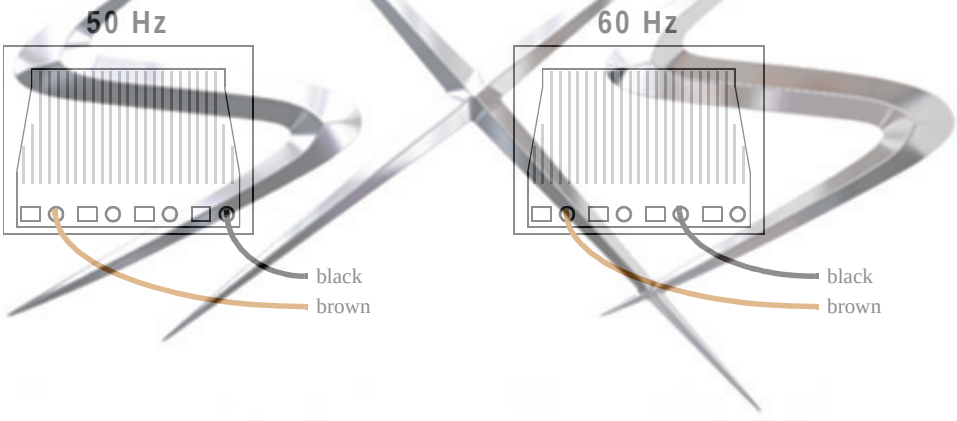


3 **To set the frequency, move the *black* wire on the ballast to the “230-50” (50 Hz) or “230-60” (60 Hz) terminal as shown. The wire is released and locked by inserting a small screwdriver in the square hole next to the terminal and prying back the spring.**

4 **Tug lightly on the black wire to make sure that it is connected securely.**

5 **Replace the top cover.**



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The MX-4 can be fastened directly to a suitable surface or to a rigging clamp by means of its adjustable mounting bracket. It can also be placed at an angle directly on the stage or floor using the mounting bracket as a floor stand. Do not lay the fixture flat on its pan/tilt arms: this can cause the fixture to overheat.

If using the GE Arcstream lamp, see "To orient the Arcstream lamp for maximum life" on page 19.

Warning! ***Block access below the work area before proceeding.***

Warning! ***Always use a secure means of secondary attachment.***

To rig the MX-4

1. **If using a rigging clamp (not included), verify that it is undamaged and can bear at least 10 times the fixture's weight. Bolt the clamp securely to the bracket with a grade 8.8 (minimum) M12 bolt and lock nut, or as recommended by the clamp manufacturer, through the 13 mm hole in the center of the mounting bracket.**
2. **If fastening the fixture directly, verify that the hardware (not included) and mounting surface can bear at least 10 times the fixture's weight. The four 6.2 mm holes and/or the 13 mm hole in the mounting bracket may be used.**
3. **Verify that the structure can support at least 10 times the weight of all installed fixtures, clamps, cables, auxiliary equipment, etc.**
4. **Working from a stable platform, clamp or fasten the fixture to the structure.**
5. **Install a safety cable that can hold at least 10 times the weight of the fixture through/over the support and through a hole in the pan/tilt arm.**
6. **Loosen the swivel locks and tilt the fixture to the desired angle. Turn the swivel locks clockwise to tighten. If a swivel lock does not tighten fully, pull the handle out, turn it counterclockwise, and retighten. Repeat as necessary.**
7. **Verify that the fixture is located at least 0.3 meters (12 in.) away from the surface to be illuminated and at least 0.1 meters (4 in.) from any combustible materials. Verify that the clearance around the fan and air vents is at least 0.1 meters (4 in.). Verify that there are no flammable materials nearby.**

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CUSTOM SETTINGS

Stand-alone operation may be customized with the settings in Table 3. The options may be combined and are set using DIP-switch pins 1 - 10. *Changes may not take effect until after the fixture has been turned off and on.*

Mode	Effect	Pin setting (0 = OFF, 1 = ON)									
		1	2	3	4	5	6	7	8	9	10
single / master	auto trigger	0	1	0			0	0	0	0	1
	music trigger	1									
	slow pan/tilt				1						
	wide pan/tilt					1					
slave	inverted color	0	0	0	0	0	1				1
	inverted gobo							1			
	inverted tilt								1		
	inverted pan									1	

Table 3: Custom stand-alone settings

SINGLE FIXTURE OPERATION

When there is no control signal at the data input for 5 seconds, the MX-4 automatically goes into stand-alone mode regardless of the DIP-switch setting. It uses music trigger unless stand-alone mode is enabled and auto trigger is selected.

To operate 1 fixture in stand-alone mode

1. **Disconnect the fixture from power and data.**
2. **(Optional) Set DIP-switch pins 2 and 10 to ON. Set pin 3 to OFF. Select stand-alone options as listed in Table 3.**
3. **Apply power.**

When you apply power, the option settings take effect and the lamp strikes. Note: A hot lamp must cool for several minutes before it can be restruck. If the lamp does

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not strike, disconnect the fixture from power for several minutes to reduce strain on the starter while the lamp cools.

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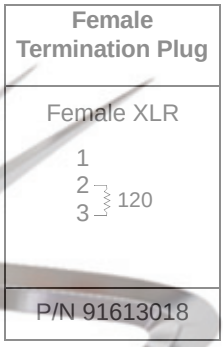
MASTER/SLAVE OPERATION

Up to 32 MX-4s can be connected together and operated in master/slave mode in which slave fixtures follow instructions sent from the master.

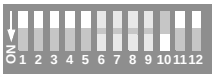
Important! ***Set only 1 fixture as master: damage can occur if 2 masters, or a master and a controller, are linked together.***

To set up MX-4s for master/slave operation

1. **Disconnect all fixtures from power.**
2. **Plug a data cable into the OUT socket of the first fixture and the IN socket of the next one. Continue connecting up to 32 MX-4s output-to-input.**
3. **Insert a female termination plug (P/N 91613018) in the IN socket of the first fixture. Insert a male termination plug (see page 13) in the OUT socket of the last fixture.**
4. **Select any one fixture to be the master. On this fixture, set DIP-switch pins 2 and 10 to ON. Set custom master options with pins 1, 4, and 5. Set pins 3, 6, 7, 8, 9, 11, and 12 to the OFF position.**
5. **On all other fixtures (slaves), set DIP-switch 10 to ON. Set custom slave options with pins 6, 7, 8, and 9. Set pins 1, 2, 3, 4, 5, 11, and 12 to the OFF position.**
6. **Apply power to the master fixture before the slaves.**



Master setting



Slave setting

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The MX-4 is fully compatible with the Martin MC-1 Controller. See the MC-1 user manual for additional information.

SETTINGS

DIP-switch pin 10 must be set to OFF to enable MC-1 mode operation. Changes to the setting take effect after the fixture has been turned off and on.

DIP-switch pins 5, 6, 7, 8, and 9 select several control options that can be combined to achieve powerful effects quickly and easily.

Option	Setting (0 = OFF, 1 = ON)										
	1	2	3	4	5	6	7	8	9	10	11
wide pan/tilt					1					0	
inverted color						1				0	
inverted gobo							1			0	
inverted tilt								1		0	
inverted pan									1	0	

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This section describes how to set up and connect the MX-4 for operation with DMX controllers.

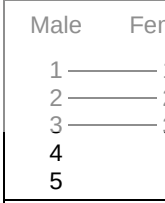
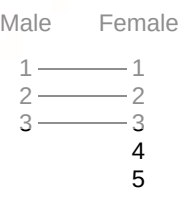
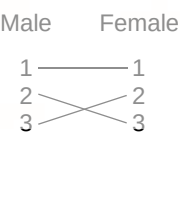
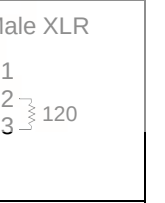
DATA CONNECTION

A reliable data connection begins with the right cable. Standard microphone cable cannot transmit DMX data reliably over long runs. For best results, use cable specifically designed for RS-485 applications. Your Martin dealer can supply high quality cable in various lengths.

CONNECTIONS

The MX-4's XLR data sockets are wired with pin 1 to ground, pin 2 to signal - (cold), and pin 3 to signal + (hot). This is the standard pin assignment for DMX devices.

One or more adaptor cables may be required to connect the MX-4 to the controller and/or other lights because many devices have 5-pin connectors and others may have reversed signal polarity, that is, pin 2 hot and pin 3 cold.

5-pin to 3-pin Adaptor	3-pin to 5-pin Adaptor	3-pin to 3-pin Phase-Reversing Adaptor	Male Termination Plug
			
P/N 11820005	P/N 11820004	P/N 11820006	P/N 91613017

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To connect the data link

1 **Connect a data cable to the controller's data output. If the controller has a 5-pin output, use a 5-pin to 3-pin male-to-female adapter cable (P/N 12120020).**

2 **Lead the data cable from the controller to the first fixture and plug it into the data input. Use adapter cables as necessary.**

3 **Connect the output of the fixture closest to the controller to the input of the next fixture. If connecting to a fixture with reversed-polarity (pin 3 cold), insert a phase-reversing cable between the two fixtures.**

4 **Continue connecting fixtures output to input. Up to 32 devices may be connected on a serial link.**

5 **Terminate the link by inserting a male termination plug (P/N 91613017) into the data output of the last fixture. A termination plug is simply an XLR connector with a 120 ohm, 0.25 W resistor soldered across pins 2 and 3.**

1-CHANNEL DMX OPERATION

The 1-channel DMX mode provides simple remote activation of the MX-4's stand-alone programs plus blackout and strobe functions. The 1-channel functions are shown in Table 5. Each fixture runs its own program and therefore cannot be synchronized with other fixtures.

DMX value	Percent	Function
0 - 10	0 - 4	Blackout (light off)
11 - 20	5 - 7	Shutter open (light on)
21 - 80	8 - 31	Strobe
81 - 115	32 - 45	Stand-alone action with slow music trigger
116 - 140	46 - 55	Stand-alone action with medium music trigger
141 - 175	56 - 68	Stand-alone action with fast music trigger
176 - 210	69 - 82	Stand-alone action with random music trigger
211 - 255	83 - 100	Manual trigger area, crossover at 240 (94%)

Table 4: 1-channel DMX functions

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6/7 CHANNEL DMX OPERATION

The 6-channel DMX mode provides position control of all effects plus speed control of the mirror. The optional 7-channel mode adds speed control of the color and gobo wheels.

Lamp power Lamp power can be switched on and off from the controller. *When set up for 6- or 7-channel DMX operation, the lamp remains off until a lamp-on command is sent.*

Note: A peak of electric current many times the operating current is drawn briefly when striking a lamp. Striking many discharge lamps at once may cause a voltage drop that prevents lamps from striking or trips circuit breakers. When striking multiple fixtures, space lamp-on commands at 5 second intervals.

A hot lamp must be allowed to cool for several minutes before it can be turned back on. To prevent accidental lamp-off commands, a lamp-off can be executed only when channel 2 and 3 are set to full.

If a hot lamp does not strike, send the lamp-off command and wait several minutes before trying again.

Reset All effects can be reset to their index positions from the controller. The reset command must be sent for 5 seconds before it takes effect.

Shutter The shutter opens, closes, and strobes at variable rates from 1.5 to 13.5 Hz.

Stand-alone When stand-alone with music or auto trigger is selected on channel 1, the mirror moves to random positions using the selected trigger. The color and gobo wheels can be controlled normally, or, by setting their control channels to full, they can be set to operate in stand-alone mode as well.

Colors The color wheel provides 15 full-color filters, 2 split-color filters, and an open position. The wheel may be positioned between 2 positions for additional split-color effects. Movement speed can be controlled on channel 7, if enabled.

For stand-alone color action, set channel 2 to a value from 210 to 255 and set channel 1 to stand-alone with music or auto trigger.

Gobos The gobo wheel provides 19 gobos and an open position. Movement speed can be controlled on channel 7, if enabled.

For stand-alone gobo action, set channel 3 to a value from 240 to 255 and set channel 1 to stand-alone with music or auto trigger.

Pan and tilt The mirror pans 230° and tilts 76.5°. Movement speed is controlled on channel 6, allowing you to program fades on controllers without cross-fader. If your controller has cross-faders, and you use them, set channel 6 to the “tracking” speed for best results.

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To select DMX mode

1 **Disconnect the fixture from power. Set *DIP-switch pin 10* to OFF.**

2 **To select 1-channel DMX mode, set DIP-switch pin 11 to ON.**

3 **To select 6-channel DMX mode, set DIP-switch pin 11 to OFF. Verify that the 6/7 ch. jumper is set for 6 channels. This is the factory configuration. See "Setting the 6/7-ch. DMX jumper" on page 21.**

4 **To select 7-channel DMX mode, set DIP-switch pin 11 to OFF. Set the 6/7 ch. jumper for 7 channels as described on page 21.**

DMX ADDRESS

The DMX address, also known as the start channel, is the first channel used to receive instructions from the controller. It is set using the DIP-switch.

For independent control, each fixture must be assigned its own address and non-overlapping control channels. Two MX-4s may share the same address only if they are to respond identically: they will receive the same instructions and individual control will not be possible.

Pin 12 is reserved for future use and currently has no function.

To set the DMX address

1 **Select a DMX mode as described above.**

2 **Select a DMX address for the fixture on your controller.**

3 **Look up the DIP-switch setting for the address in Table 5.**

4 **Set pins 1 through 9 to the ON (1) or OFF (0) position as listed in the table.**

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DIP-Switch Setting					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
					#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
					#7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
					#6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
#1	#2	#3	#4	#5																	
0	0	0	0	0	1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481
1	0	0	0	0	2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482
0	1	0	0	0	3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483
1	1	0	0	0	4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484
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0	1	1	0	0	7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487
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1	0	0	1	0	10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490
0	1	0	1	0	11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491
1	1	0	1	0	12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492
0	0	1	1	0	13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493
1	0	1	1	0	14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494
0	1	1	1	0	15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495
1	1	1	1	0	16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496
0	0	0	0	1	17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497
1	0	0	0	1	18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498
0	1	0	0	1	19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499
1	1	0	0	1	20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500
0	0	1	0	1	21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501
1	0	1	0	1	22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502
0	1	1	0	1	23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503
1	1	1	0	1	24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504
0	0	0	1	1	25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505
1	0	0	1	1	26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506
0	1	0	1	1	27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507
1	1	0	1	1	28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508
0	0	1	1	1	29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509
1	0	1	1	1	30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510
0	1	1	1	1	31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511
1	1	1	1	1																	

Table 5: DIP-switch address settings

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COMPATIBLE LAMPS

The MX-4 uses the Philips CDM-SA/T (short-arc, tubular) 150W discharge lamp. If desired, the GE Arcstream 150 may be substituted. *Installing any other lamp may damage the fixture.*

To replace the lamp

WARNING! Wear safety glasses and allow the lamp to cool for at least 5 minutes before removing the lamp.

1. **Disconnect the fixture from power and allow it to cool.**
2. **Remove 2 screws from the lamp-socket assembly with a Pozidriv #2 screwdriver. Remove the lamp assembly.**
3. **Remove the old lamp from the socket.**
4. **Holding the new lamp by its base (do not touch the glass), insert the lamp pins squarely into the socket.**
5. **If your fingers touched the glass bulb, clean it with a clean, lint-free cloth wetted with alcohol.**
6. **Insert the lamp assembly carefully so that the lamp wires are clear of the fan. Replace the screws.**

To align the lamp

Realignment when changing the lamp may improve performance.

1. **Strike the lamp and shine the light on a flat surface.**
2. **Center the hot-spot (the brightest part of the beam) horizontally with small turns of the top-left adjustment screw using a 3 mm Allen wrench.**
3. **Center the hot-spot vertically with the bottom adjustment screw.**
4. **If there is no hot-spot, adjust the reflector until the light is even.**

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To orient the Arcstream lamp for maximum life

If using the GE Arcstream lamp, maximum lamp life will be achieved by installing the lamp so the arc is horizontal with the ground.

This is the case in most installations. If the fixture is installed sideways, however, as shown in the right-hand illustration, with 250 watts selected, rotate the lamp socket 90° to achieve the ideal burning position.

1 **Disconnect the fixture from power and allow it to cool.**

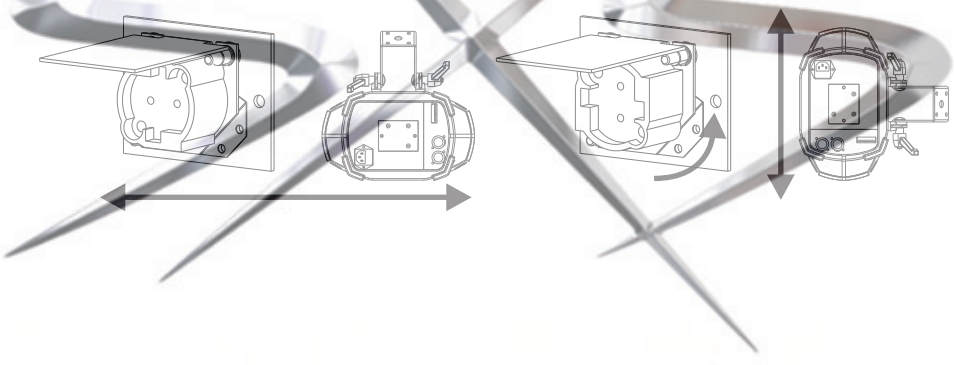
2 **Remove 2 screws from the lamp-socket assembly with a Pozidriv #2 screwdriver. Remove the lamp assembly.**

3 **Remove 2 screws from the lamp socket with a Pozidriv #1 screwdriver.**

4 **Turn the socket 90°, as shown below, in the direction that results in the least amount of twist in the wires. Tuck the lamp wires into the notches in the socket and replace the screws.**

5 **Insert the lamp assembly carefully so that the lamp wires are clear of the fan and replace the access-plate screws.**

6 **Align the lamp as described above.**



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The MX-4 requires simple routine maintenance. The maintenance schedule depends heavily on the operating environment; please consult a Martin service technician for recommendations.

Any service procedure not described here should be referred to a qualified technician.

Important! ***Excessive dust, grease, and smoke fluid buildup degrades performance and causes overheating and damage to the fixture that is not covered by the warranty.***

Warning! ***Disconnect the fixture from AC power before removing any cover.***

CLEANING

To clean optical components

Use care when cleaning optical components. The surface of the color filters is fragile and small scratches may be visible.

1. **Disconnect the fixture from AC power and allow the components to cool completely.**
2. **Remove the top cover bolts with a 4 mm Allen wrench and lift off the cover.**
3. **Blow or vacuum away loose dust. Remove residues from lenses and filters with a soft cloth or cotton swabs wetted with isopropyl alcohol. Regular glass cleaner may also be used, but no residues may remain.**
4. **Rinse with distilled water. Mixing the water with a small amount of wetting agent such as Kodak Photoflo will help prevent streaking and spotting.**
5. **Dry with a clean, soft and lint-free cloth or blow dry with compressed air.**
6. **Replace the top cover.**

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To clean the fan and air vents

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To maintain adequate cooling, dust must be cleaned from the fan and air vents periodically.

1. **Remove the data and power cables and stand the fixture on end.**
2. **Remove dust and dirt from the fan blades and vent grills using a soft brush, cotton swab, vacuum, or compressed air.**

REPLACING FUSES

The MX-4 has 2 fuses. The main fuse holder is built in to the mains input socket. The secondary fuse is located on the printed circuit board.

Warning! ***Never replace fuses with ones of a different rating!***

To replace the main fuse

1. **Unplug the mains cable from the input socket. Pry open the fuse holder and remove the fuse.**
2. **Replace the fuse with one of the same type. The fuse rating is listed on serial number label.**

To replace the secondary fuse

1. **Disconnect the fixture from AC power. Remove the top cover bolts with a 4 mm Allen wrench and lift off the cover.**
2. **The fuse is located right behind the data input connector. Pry out the defective fuse and replace it with one of the same rating.**
3. **Replace the cover before applying power.**

SETTING THE 6/7-CH. DMX JUMPER

1. **Disconnect the fixture from power.**
2. **Remove the top cover. Locate PL 118 on the printed circuit board, next to DIP-switch pin 12.**
3. **Using a pair of tweezers or similar tool, place the jumper on 1 of the 2 pins, or remove it completely, for 6-channel DMX operation. Place the jumper on both pins to enable 7-channel DMX operation.**
4. **Replace the top cover before applying power.**

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9 Troubleshooting

Problem	Probable cause(s)	Remedy
One or more of the fixtures is completely dead.	No power to fixture.	Check that power is switched on and cables are plugged in.
	Primary fuse blown.	Replace fuse.
	Secondary fuse blown.	Replace fuse.
Fixtures reset correctly but all respond erratically or not at all to the controller.	The controller is not connected.	Connect controller.
	XLR pin-out of the controller does not match pin-out of the first fixture on the link (i.e. signal is reversed).	Install a phase-reversing cable between the controller and the first fixture on the link.
Fixtures reset correctly but some respond erratically or not at all to the controller.	Bad data link connection	Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	Data link not terminated with 120Ω termination plug.	Insert termination plug in output jack of the last fixture on the link.
	Incorrect addressing of the fixtures.	Check DIP-switch settings.
	One of the fixtures is transmitting as a master or is defective.	Bypass one fixture at a time until normal operation is regained: unplug both connectors and connect them directly together. Have the defective fixture serviced by a qualified technician.
An effect fails to reset correctly.	The effect requires mechanical adjustment.	Contact Martin technician for service.
No light.	Lamp missing or blown	Disconnect fixture and replace lamp.
Lamp cuts out intermittently or burns out too quickly.	Fixture is too hot.	Allow fixture to cool.
	The transformer setting does not match local AC voltage.	Check AC setting.

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Channel	Value	Percent	Function
			Shutter, Lamp power, Reset
	0 - 9	0 - 3	Shutter closed (blackout)
	10 - 19	3 - 7	Lamp-on
	20 - 99	7 - 39	Shutter open
	100 - 159	39 - 62	Strobe, fast to slow
1	160 - 179	63 - 70	Shutter closed
	180 - 204	70 - 80	Remote stand-alone w/ music trigger
	205 - 229	80 - 90	Remote stand-alone w/ auto trigger
	230 - 239	90 - 94	Shutter closed
	240 - 249	94 - 98	Reset (hold for 5 sec.)
	250 - 255	98 - 100	Lamp-off (w/ ch. 2 & 3 > 252, hold for 5 sec.)
			Color wheel
	0 - 5	0-1	White
	6 - 11	2-4	White / Light blue 101
	12 - 17	4-6	Light blue 101
	18 - 23	7-9	Light blue 101 / Fern green 205
	24 - 29	9-11	Fern green 205
	30 - 35	11-13	Fern green 205 / Red 304
	36 - 41	14-16	Red 304
	42 - 47	16-18	Red 304 / Yellow 603
	48 - 53	18-20	Yellow 603
	54 - 59	21-23	Yellow 603 / Magenta 507
	60 - 65	23-25	Magenta 507
	66 - 71	26-27	Magenta 507 / Medium blue 108
	72 - 77	28-30	Medium blue 108
	78 - 83	30-32	Medium blue 108 / Deep orange 302
	84 - 89	33-35	Deep orange 302
	90 - 95	35-37	Deep orange 302 / Light green 204
	96 - 101	37-39	Light green 204
2	102 - 107	40-42	Light green 204 / Cyan 104
	108 - 113	42-44	Cyan 104
	114 - 119	44-46	Cyan 104 / Pink 312
	120 - 125	47-49	Pink 312
	126 - 131	49-51	Pink 312 / Blue 111
	132 - 137	52-53	Blue 111
	138 - 143	54-56	Blue 111 / Amber 604
	144 - 149	56-58	Amber 604
	150 - 155	59-61	Amber 604 / Primary red 308
	156 - 161	61-63	Primary red 308
	162 - 167	63-65	Primary red 308 / Primary green 206
	168 - 173	66-68	Primary green 206
	174 - 179	68-70	Primary green 206 / Orange 306
	180 - 185	70-72	Orange 306
	186 - 191	73-75	Orange 306 / Split-color 1
	192 - 197	75-77	Split-color 1
	198 - 203	78-79	Split-color 1 / Split-color 2
	204 - 209	80-82	Split-color 2
	210 - 255	82-100	Remote stand-alone action, select trigger on ch. 1

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Channel	Value	Percent	Function
3	0 - 23	0 - 8	**Gobo Wheel** Open
	24 - 35	9 - 13	Web
	36 - 47	14 - 18	Pearls
	48 - 59	19 - 23	Cobweb
	60 - 71	24 - 27	Cobweb 2
	72 - 83	28 - 32	Maze
	84 - 95	33 - 37	Crater
	96 - 107	38 - 41	Holes 2
	108 - 119	42 - 46	Cross 2
	120 - 131	47 - 51	Jagged cross
	132 - 143	52 - 55	Atomic
	144 - 155	56 - 60	Dot circle
	156 - 167	61 - 65	Nordic
	168 - 179	66 - 70	Aim
	180 - 191	71 - 74	Spokes 2
	192 - 203	75 - 79	Tie
	204 - 215	80 - 84	Nova
	216 - 227	85 - 88	Triple beam
	228 - 239	89 - 96	Dot 2
	240 - 255	97 - 100	Remote stand-alone action, select trigger on ch. 1
4	0 - 255	0 - 100	**Pan** Left to right (127 = neutral)
5	0 - 255	0 - 100	**Tilt** Up to down (127 = neutral)
6	0 - 2	0 - 1	**Pan/Tilt Speed** Tracking (speed function off)
	3 - 255	2 - 100	Fast to slow
7*	0 - 255	0 - 100	**Color / Gobo Speed** (extended mode - jumper on PL118) Fast to slow

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PHYSICAL

Size (L x W x H) ..... 537 x 269 x 263 mm (21.1 x 10.6 x 10.4 in)
Weight..... 8.8 kg (19.4 lbs)

SOURCE

Philips CDM-SA/T 150W ..... 85 Lm/W, 6000 hr, 4000 K
GE Arcstream 150 W ..... 77 Lm/W, 6000 hr, 4000 K

THERMAL

Maximum ambient temperature (T_a) ..... 40° C (104° F)
Maximum surface temperature..... 65° C (149° F)

CONTROL AND PROGRAMMING

Control protocol.....USITT DMX-512 (1990)
DMX channels..... 1/6/7

CONNECTIONS

AC input ..... 3-prong IEC male socket
Data .....3-pin locking XLR, pin 1 shield, pin 2 cold (-), pin 3 hot (+)

MAXIMUM POWER AND CURRENT

@ 100 V, 50 or 60 Hz .....205 W, 2.6 A
@ 120 V, 50 or 60 Hz .....205 W, 2.0 A
@ 210 V, 50 or 60 Hz .....190 W, 1.2 A
@ 230 V, 50 or 60 Hz .....190 W, 1.0 A
@ 250 V, 50 or 60 Hz .....200 W, 1.0 A

FUSES

Primary fuse .....T 3.15 A, high I^2t, 250 V
Secondary fuse (F101) .....T 2.0 A, 250 V

INSTALLATION

Minimum distance to combustible materials..... 0.1 m (4 in)
Minimum distance to illuminated surfaces..... 0.3 m (12 in)
Minimum clearance around fan and air vents ..... 0.1 m (4 in)

ACCESSORIES

MC-1 controller, EU 90718000
MC-1 controller, US 90718100
G-clamp 91602003
Half-coupler clamp 91602005

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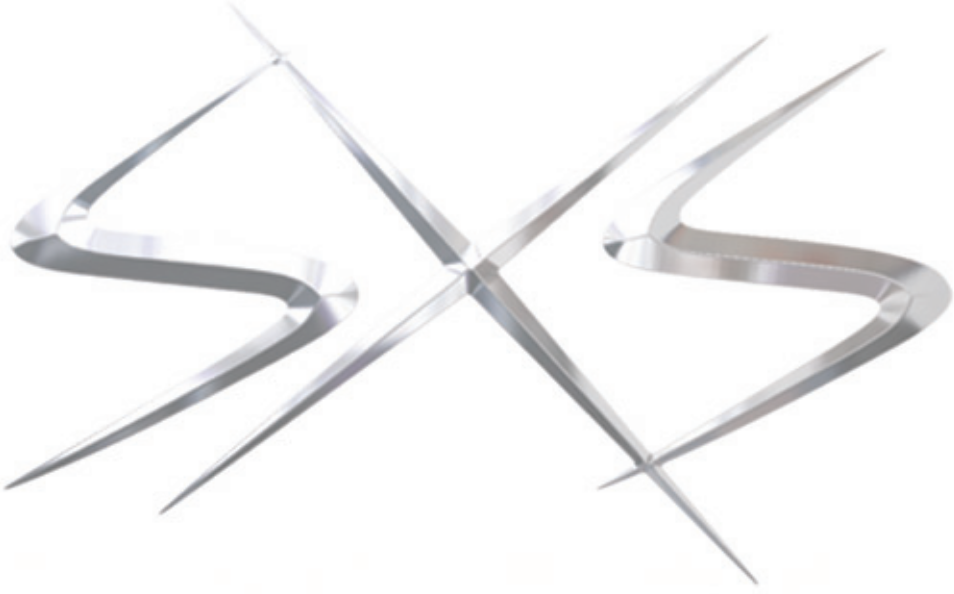

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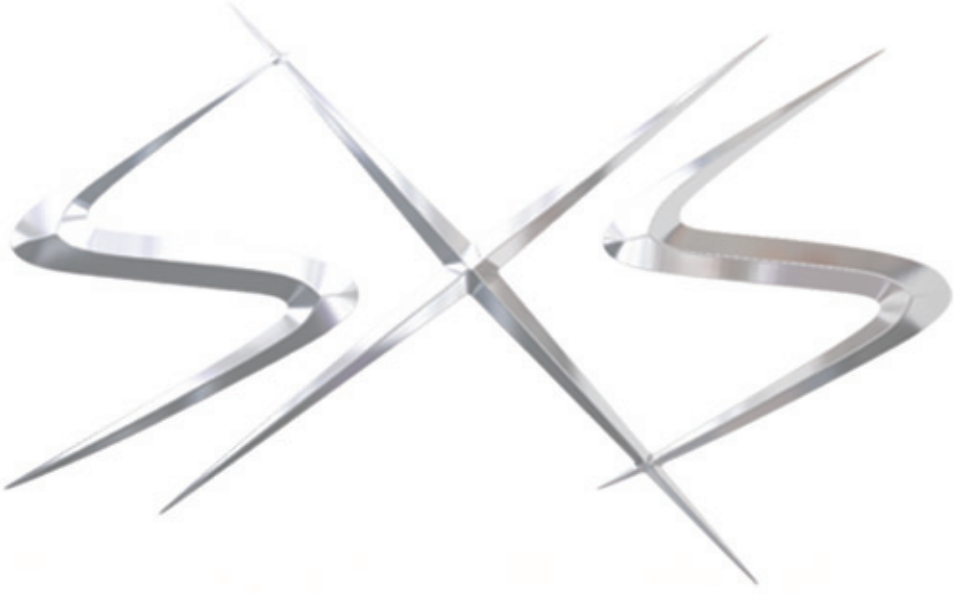

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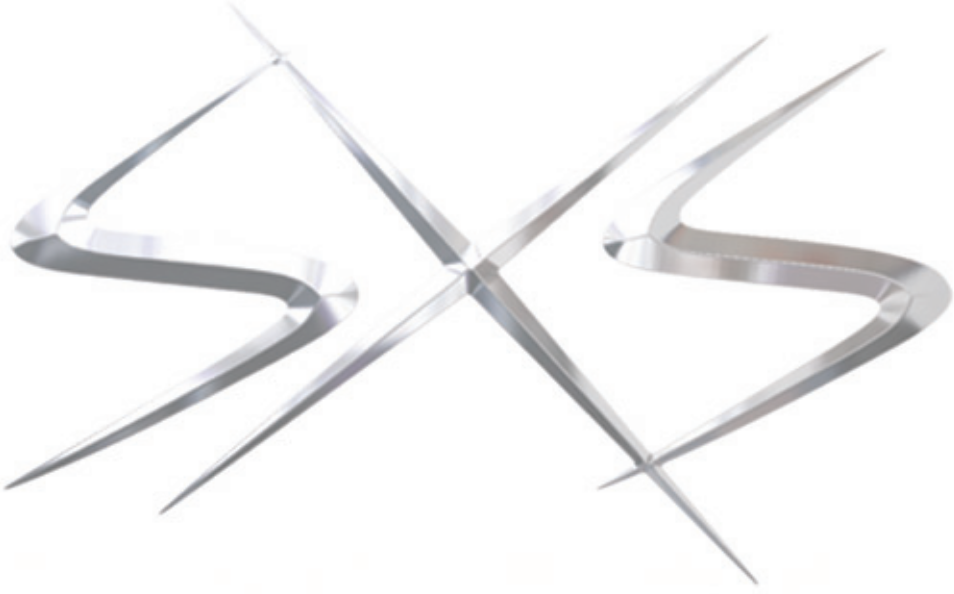

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